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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,138	10/30/2003	Jung Yun Do	51876P404	3451

8791 7590 12/20/2006
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EXAMINER

KUGEL, TIMOTHY J

ART UNIT PAPER NUMBER

1712

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/20/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No. 10/699,138	Applicant(s) DO ET AL.	
	Examiner Timothy J. Kugel	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 16 October 2006 and 30 October 2006.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1 and 3-6 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1 and 3 is/are rejected.
- 7) Claim(s) 4-6 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 30 October 2003 is/are: a) accepted or b) objected to by the Examiner.
 - Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 - Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

1. Claims 1 and 3-6 are pending as amended on 16 October 2006, claim 2 being cancelled.

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on 16 and 30 October 2006 have been entered.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Amendment

4. Applicant's amendment, filed 16 October 2006, with respect to the importation of the limitations of claim 2—currently cancelled—into independent claim 1 has been fully considered and overcomes the following:

The rejection of claims 1 and 3-5 are under 35 U.S.C. 102(b) as being anticipated by US Patent 6,252,025 (Wang '025) has been withdrawn.

The rejection of claim 6 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wang '025 as evidenced by

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Tomalia et al. "Dendritic macromolecules" in AccessScience@McGraw-Hill,

<http://www.accessscience.com>, DOI 10.1036/1097-8542.YB980185, April 10, 2000

(Tomalia hereinafter) has been withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1 and 3 stand rejected under 35 U.S.C. §102(a) as being anticipated by Synthesis and Optical properties, Photonics Conference 2002, October 30-November 1 2002, 497-498 (Do 2002 hereinafter).

Do 2002 teaches a non-linear optical material comprising the elected polymer having the dendrimer structure shown in Formula 21 of the instant claim 2, with the elected organic chromophore identified as AIDC in Table 1 of the instant claim 3 coupled by ether linkage at the site of the terminal hydroxy groups of said polymer (Formula TDAIDC101 Page 498).

Regarding the amended limitation to claim 1, "the dendrimer structure having symmetry along three dimensions", since Do 2002 teaches the same composition as claimed, the symmetry of the Do 2002 dendrimer would inherently be the same as claimed.

Allowable Subject Matter

6. Claims 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Wang '025 teaches a nonlinear optical material comprising a dendridic polymer with multiple active end groups including chromophores and non-chromophores including phenyl and alkyl groups, and Tomalia shows that dendrimers are three-dimensional in architecture, but neither teaches or fairly suggests the dendridic polymers of the structures of claim 1 Formulas 21, 23, 28, 6, 12, 16, 29, 8, 14, 18, 30, 25, 27 or 31.

Response to Arguments

7. The declarations of Jung Yun Do, Seung Koo Park, Jung Jin Ju, Suntak Park and Myung Hyun Lee under 37 CFR 1.132 filed 30 October 2006 have been fully considered but are insufficient to overcome the rejection of claims 1 and 3 based upon Do 2002 as set forth in the last Office action because:

Each declaration attests that Jung Yun Do, Seung Koo Park, Jung Jin Ju, Suntak Park, Sung-Min Ma and Myung Hyun Lee are listed as authors of Do 2002 and that Sung-Min Ma was merely working under or at the direction of one or more of the other listed authors; however, since Min-Su Kim is listed as an inventor of the instantly claimed invention and is not an author of Do 2002—that is, the inventive entity of the

instant application is different from the authorship of the reference—Do 2002 is “by others” and therefore qualifies as prior art under 35 USC 102(a).

Conclusion

8. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

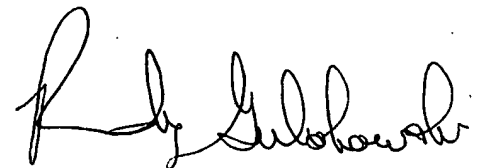
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Kugel whose telephone number is (571) 272-1460. The examiner can normally be reached 6:00 AM – 4:30 PM Monday-Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJK
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